

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Previously Presented) A method of regulating engagement of a torque transfer device by superimposing a dithering signal onto a digital control signal having multiple pulses to provide a dithered control signal, the method comprising the steps of:

(a) nulling blocks of pulses of the digital control signal having at least one nulled pulse per block, such that each successive block of nulled pulses has at least the same number of nulled pulses as the block that immediately precedes the succeeding block;

(b) nulling blocks of pulses of the digital control signal having at least one nulled pulse per block, such that each successive block of nulled pulses has an equal or less number of nulled pulses than the block that immediately precedes the succeeding block; and

(c) regulating engagement of the torque transfer device based on the dithered control signal.

2. (Original) The method of Claim 1 further comprising the step of:
determining a period of the dithering signal;
wherein step (a) occurs over a first half of the dithering period and step (b) occurs over a second half of the dithering period.

3. (Original) The method of Claim 1 wherein the pulses are voltage pulses.

4. (Original) The method of Claim 1 wherein the nulled pulses have a voltage that is substantially equal to zero.

5. (Original) The method of Claim 1 wherein the control signal has a duty cycle that can be varied by modulating a pulse width.

6. (Original) The method of Claim 1 wherein each block of nulled pulses consists of consecutively nulled pulses with no intervening non-nulled pulses.

7. (Original) The method of Claim 1 wherein there is at least one pulse between succeeding blocks of nulled pulses.

8. (Original) The method of Claim 1 wherein the pulses are spaced at intervals that are substantially equal to the reciprocal of a frequency of the control signal.

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Previously Presented) A method for dithering an output force generated by a transfer case actuator assembly, which steps comprise:

generating a digital control signal having multiple pulses;

modifying the digital control signal by nulling blocks of control signal pulses consisting of at least one nulled pulse per block to produce a dithered control signal;
and

varying the output force generated by the actuator assembly in response to the dithered control signal.

18. (Original) The method of Claim 17 further comprising the step of:
using the output force generated by the actuator assembly to move a clutch actuation
mechanism.

19. (Original) The method of Claim 17 wherein each block of nulled pulses
cause a corresponding dip in the output force generated by the actuator assembly.

20. (Original) The method of Claim 19 wherein the number of nulled
pulses in a given block determines an amplitude of the corresponding dip in the output
force generated by the actuator assembly.

21. (Original) The method of Claim 19 wherein the dip in output force
generated by the actuator assembly causes a corresponding movement of a actuation
mechanism.